

**Supplementary Table S3 dN/dS analysis of *Leishmania* genes annotated with Gene Ontology Biological Process terms.**

GO	descript	W_score	p_value	median_in	median_out
<b>Significant</b>					
GO:0000004	<b>biological process unknown</b>	<b>995796</b>	<b>2.20E-16</b>	<b>0.216745</b>	<b>0.13462</b>
GO:0044237	cellular metabolism	804267.5	2.20E-16	0.1263	0.16938
GO:0019538	protein metabolism	737913.5	9.70E-10	0.127455	0.16005
GO:0044238	primary metabolism	128094.5	2.14E-06	0.11078	0.155705
GO:0016043	cell organization and biogenesis	321865	6.62E-06	0.12119	0.15534
GO:0006139	nucleobase, nucleoside, nucleotide and nucleic acid metabolism	208122.5	8.63E-05	0.12063	0.15461
GO:0050875	cellular physiological process	93118	0.0001578	0.10859	0.15324
<b>GO:0043283</b>	<b>biopolymer metabolism</b>	<b>563498</b>	<b>0.0001675</b>	<b>0.1814</b>	<b>0.14841</b>
GO:0043170	macromolecule metabolism	75675.5	0.0001867	0.10859	0.153725
GO:0006810	transport	524722.5	0.0006705	0.131	0.15555
GO:0008152	metabolism	197094	0.01451	0.13395	0.1538
GO:0016049	cell growth	8832.5	0.03781	0.07955	0.15176
<b>Not significant</b>					
GO:0007275	development	3563	0.05279	0.06343	0.151825
GO:0006259	DNA metabolism	199199	0.07476	0.175	0.1501
GO:0007582	physiological process	5096	0.08649	0.067825	0.15176
GO:0007154	cell communication	100460	0.1416	0.11225	0.1521
GO:0051234	establishment of localization	22274	0.1895	0.11123	0.15193
GO:0040007	growth	2925	0.3418	0.04662	0.151745
GO:0006629	lipid metabolism	136795.5	0.5999	0.147915	0.15176
GO:0016070	RNA metabolism	287476.5	0.733	0.16837	0.150285
GO:0009987	cellular process	10522	0.8047	0.14845	0.151745
GO:0008150	biological_process	31986.5	0.84	0.161325	0.15102
GO:0044403	symbiosis, encompassing mutualism through parasitism	8928	0.8552	0.18781	0.15173
GO:0000902	cellular morphogenesis	7419	0.8778	0.19629	0.151375

Some GO categories were evolving significantly faster/slower (than all other genes) using the single dN/dS values for the entire tree. Only those in bold are signif > dN/dS, all other significant categories are significantly more conserved. Similar to *P. falciparum*, most metabolism categories are significantly more conserved.